

Bozeman Pass Wildlife Linkage and Highway Safety Pilot Study Quarterly Progress Report # 3 –August 1 - October 31 2003

This report was prepared by staff at the Craighead Environmental Research Institute (CERI) for the Montana Department of Transportation and Western Transportation Institute as part of the Bozeman Pass Wildlife Linkage and Highway Safety Pilot Study. 27 July, 2003.

During the third quarter of 2003, the Bozeman Pass Wildlife Linkage and Highway Safety Pilot Study is in the pre-construction phase of the project. CERI is continuing to collect data on animal-vehicle collisions (Task 1) and documenting animal crossing areas (Task 2) near the milepost 314 MRL bridge.

Animal-vehicle collision monitoring (Task 1)

Volunteers recorded road-kill on a daily basis over Bozeman Pass as they commuted to Bozeman. CERI personnel recorded road-kill on a weekly basis. A two-week period of intensive road-kill survey was done for comparison purposes by one intern observer and several volunteers from September 17 to September 30. They drove over the entire Pass route just after sunrise and just before sunset in order to determine whether new road-kills occurred during daytime or night. The total number of road-kills observed will be compared with the number obtained using the standard level of effort (volunteers and CERI personnel) to get an idea of how many records are missed in this manner. During this quarterly time period (August 1 to October 31) approximately 40 animals were recorded as road-kills between Bozeman and Livingston using all methods. Locations for road-kills were mapped and entered into the GIS database. Documenting animal-vehicle collisions is still in progress and will continue throughout 2003 and 2004 during the pre-construction phase.

Document Animal Crossings (Task 2)

Two or more observers were placed near to the MRL bridge at milepost 314 during the same two-week period in September (9-30) 2003 to determine the number of animals that travel underneath the MRL bridge during the early morning and late evening, and to observe any animals crossing over the highway at the same time. The observers arrived one hour before dawn and observed two hours after dawn in the morning and arrived two hours before sunset and observed one hour after sunset. Binoculars and night vision goggles were used from a vantage point north of the overpass to identify animals in and around the overpass. During this same time period, one or more of the observers drove Bozeman Pass to identify road-kill that had been killed during the previous evening and early morning. We are planning to have observers repeat this same observation study in the winter of 2003 for another two-week period. If additional funding is available, we would like to do this at least 4 times per year; once during each season. During this fall observation period we hired one technician, Grace Desmarais, who was assisted at various times by three CERI staff members (Lance and

April Craighead, and Tom Olenicki) and by five volunteers (Jen Southers, Clint Shearouse, Jaime Helmuth, Kim Heinemeyer, and John Councilman)

During the 84 hours of observations at the overpass, observations were made of animals utilizing the area in and around the milepost 314 MRL bridge; officially known as MDT bridge (DOT# 060 036W). Animals that utilized the underpass included white-tailed and mule deer. During this time period, fewer animals crossed underneath the MRL bridge than during the June observation period. White-tailed deer were the most numerous species observed crossing underneath the MRL bridge and they tended to cross underneath the MRL bridge using a game trail on the east side of the underpass.

Road-kill data was recorded on Bozeman Pass during this same time two-week period as discussed above; once in the morning and once in the evening. During the 28 hours of road-kill surveys, 35 animals were recorded as being killed on the pass. The animals ranged from medium sized mammals (skunks, raccoons, marmots, porcupines) to large mammals (deer and bears). During this fall quarter 6 black bears have been killed on I-90 between Bozeman and Livingston; 4 of these were killed near the Bear Canyon exit and the area of proposed wildlife exclusion fencing. These data will be tabulated for the annual report.

Four remote cameras in culverts along Rocky Creek were monitored during the period. Event data was collected and photographs were recorded. For the first time during this study, black bears were recorded using the culverts beneath I-90. Cameras will continue to be monitored during the pre-construction phase (2004-2005).

Wildlife Track Bed

Preparations for an animal track bed proceeded during this period. Lance Craighead had filed an application for an Encroachment Permit with MDT on June 12. The permit was conditionally approved and returned on July 10. The Encroachment Permit ID # is FAP I-1G90-6(2), maintenance number 2201 for route I-90: the application is only valid if an approved Right Of Entry Permit was obtained from Montana Rail Link. During this quarter we applied for and obtained a Right Of Entry Permit from MRL. The permit was applied for on August 7 and was granted on September 23. We began construction of a track bed for obtaining animal tracks as the y pass beneath the MRL bridge in early October when the site was marked out and an underground utilities search was requested. An initial work session was conducted on October 4 by Lance Craighead, Tom Olenicki and Amanda Hardy. Volunteers were enlisted for a final work session on October 25. WTI provided filter fabric material to line the track bed, and Bridger Fire provided polaskis and rakes. Once the track bed is completed we will be able to obtain an accurate record of pre-construction and post-construction use of the underpass.

Refine GIS model (Task 3)

During the second quarter of 2003, no more work was done on refining the GIS model. As more road-kill data are collected it will be incorporated into the model and evaluated. Winter snow track data from 2002-2003 were entered into the GIS database.

Other related activities

A poster on the Bozeman Pass Wildlife Linkage and Highway Safety Pilot Study was displayed at the ICOET meetings in Lake Placid, NY, on August 26. Presentations were made to the Arthur B. Schultz Foundation Board of Directors on September 18 and at the CERI conference on Conservation Area Design at the B-bar Ranch (October 11). CERI personnel met with MDT engineers at the MRL bridge site on September 5 to discuss wildlife exclusion fencing design and other mitigations. CERI personnel met with Dewey Lonnes of MDT and Steve Werner of MRL at the MRL bridge site to discuss the construction of the wildlife track bed and the Right of Entry Permit application.

Time spent on each of the above tasks conformed to the planned schedules. Approximately one-tenth of the time planned for these pre-construction data collection activities was completed during this period; to date about 15/29ths of all pre-construction data collection has been completed. Similar amounts of the budget were expended.